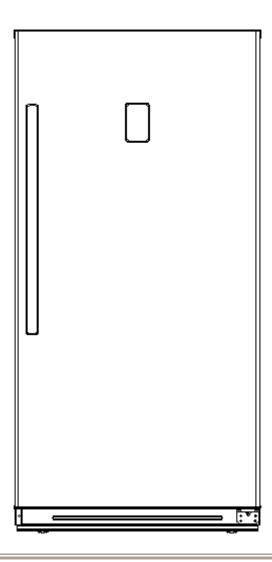
Service Manual

UPRIGHT SERIES

| Applicable Models | Model Code | Applicable Models |
|-------------------|---------------|-------------------|
| HS-507FWEN | UR-BD390WE-ST | 22031010002261 |
| HS-625FWEN | UR-BD481WE-ST | 22031010002241 |
| HS-772FWEN | UR-BD594WE-ST | 22031010002242 |



The picture in this service manual is only for reference, and specific appearance and configuration are subject to the real product.

This manual mainly teaches the method, the specific work skill needs engineer to accumulate through the daily work.



MARNING

Important Safety Notice

There are special components used in this equipment which are important for safety. These parts are marked by \triangle in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.



WARNING

Important Safety Notice

The Maintenance Manual is only for the use of maintenance personnel with certain experience and background in electrical, electronic and mechanical field.

Any attempt to repair main devices may lead to personal injury and property loss. Manufacturers or distributors are not responsible for the content of the Manual and interpretation thereof.

Midea Refrigerators

Technical Maintenance Manual Copyright @2017

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| | Service Manual_2018-V2.0 |
|-----------------------------------|--------------------------|
| 1. Significant update notes(None) | |
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2. Safety Warning Code

2.1 Warning for operation safety

Important Safety Instructions



CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN





This symbol indicates that dangerous voltage constituting a risk of electric shock is present within your freezer.



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying your freezer.

WARNING

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- **5)** Do not use this appliance near water.
- 6) Clean only with a damp cloth.
- 7) Do not block any ventilation openings.
- 8) Install in accordance with the manufacturer's instructions.
- **9)** Do not install near any heat sources, such as radiators, heat registers, stoves, or other apparatus that produce heat.
- **10)** Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- **11)** Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the appliance.
 - **12)** Do not attempt to modify or extend the power cord of this appliance.
- **13)** Unplug this appliance during lightning storms or when it will not be used for long periods of time.
- **14)** Make sure that the available AC power matches the voltage requirements of this appliance.

CONNECTING ELECTRICITY

A WARNING Electrical Shock Hazard.

Plug into a grounded 3-prong outlet.

Do not remove the ground prong.

Do not use an adapter.

Failure to follow these instructions can result in death, fire, or electrical shock.



WARNING

death.

Electric Shock Hazard

Failure to follow these instructions can result in electric shock, fire, or

- 1) WARNING-Keep ventilation openings, in both the freezer and the built-in structure, clear of obstruction.
- **2) WARNING**—Do not touch the interior of the freezer with wet hands. This could result in frost bite.
- **3) WARNING**—Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
 - 4) WARNING-Do not damage the refrigerant circuit.
- **5) WARNING**—Do not damage the refrigerant tubing when handling, moving, or using the freezer.
- **6) WARNING-DANGER**—Never allow children to play with, operate, or crawl inside the freezer. Risk of child entrapment. Before you throw away your old freezer:
 - 6-1) Take off the doors
 - 6-2) Leave the shelves in place so that children may not easily climb inside
 - 7) Unplug the freezer before carrying out user maintenance on it.
- **8)** This freezer can be used by children age eight years and older and persons with reduced physical or mental capabilities or lack of experience and knowledge if they are given supervision or instruction concerning the use of the freezer in a safe way and understand the hazards involved. Children should not play with the freezer. Cleaning and maintenance should not be performed by children without supervision.
- **9)** If a component part is damaged, it must be replaced by the manufacturer, its service agent, or similar qualified persons in order to avoid a hazard.
- **10)** Please dispose of the freezer according to local regulations as the freezer contains flammable gas and refrigerant.
- **11)** Follow local regulations regarding disposal of the freezer due to flammable refrigerant and gas. All refrigeration products contain refrigerants, which under the guidelines of federal law must be removed before disposal. It is the consumer's responsibility to comply with federal and local regulations when disposing of this product.

- 12) This freezer is intended to be used in household and similar environments.
- **13)** Do not store or use gasoline or any flammable liquids inside or in the vicinity of this freezer.
- **14)** Do not use extension cords or ungrounded (two-prong) adapters with this freezer. If the power cord is too short, have a qualified electrician install an outlet near the freezer. Use of an extension cord can negatively affect the freezer's performance.

Grounding requirement

This freezer must be grounded. This freezer is equipped with a cord having a grounding wire with a grounding plug. The plug must be inserted into an outlet that is properly installed and grounded.

Improper use of the grounding plug can result in a risk of electric shock. Consult a qualified electrician or service person if the grounding instructions are not completely understood, or if doubt exists as to whether the freezer is properly grounded.

2.2 Safety instruction for refrigerant



Keep flammable materials and vapors, such as gasoline, away from freezer. Failure to do so can result in fire, explosion, or death.

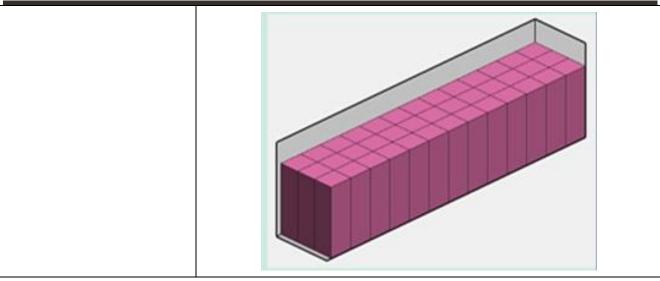
Safety instruction for refrigerant

DANGER-Risk of Fire or Explosion. Flammable Refrigerant Used. To Be Repaired Only By Trained Service Personnel. Do Not Use Mechanical Devices. Do Not Puncture Refrigerant Tubing. CAUTION-Risk of Fire or Explosion. Flammable Refrigerant Used. Consult Repair Manual/Owner's Guide Before Attempting To Service This Product. All Safety Precautions Must be Followed. CAUTION-Risk of Fire or Explosion. Dispose of Properly In Accordance With Federal Or Local Regulations. Flammable Refrigerant Used. CAUTION-Risk of Fire or Explosion Due To Puncture Of Refrigerant Tubing; Follow Handling Instructions Carefully. Flammable Refrigerant Used.

3. Transport

3.1 Container transport

| 3.1 Container transport | | | | |
|---|--|--------------------|------------------|-------------------|
| Packing Size(LWH): | BD390 760*800*1620 BD481 885*775*1690 BD594 885*775*1990 | | | |
| Container specification(LWH): | | | 032*2.352*2.690) | m |
| | What floor | QTY 390/481/594 | Door direction | Cabinet direction |
| Container scheme, and Container QTY: | 1 st floor | 45/39/39 | Outside | / |
| Container Q11: | 2 nd floor | 21/19/0 | Outside | / |
| | Total | 66/58/39 | | |
| | | | BD390 | |
| Container diagram Vertical placement Lie down and placement Right Side Door | BD390 BD481 | | | |
| | BD594 | | | |

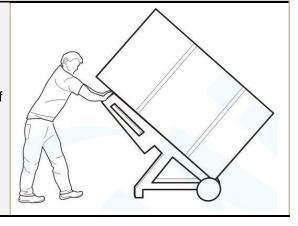


Notes: The goods on the top layer of the container may conflict with the position of the side corner of the container.

3.2 Handling

Handling

- 1)Protect the refrigerator in moving it,Same as shown as lef t photo, please move it by handcart with cushion
- 2)Remove all packing materials and bottom cushion, the move into house for placement
- 3)After moving it to appropriate location, wait for 2 hours bef ore power on.



4. Installation and commissioning

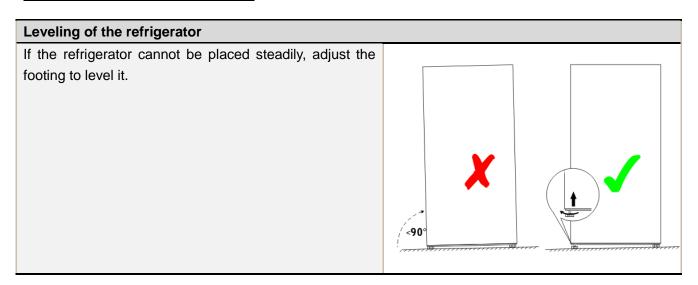
4.1Door Disassembly and Assembly(None)

The refrigerator door needs to be dismantled if it cannot enter the room in the whole.

4.2 Installation location

Location that is easy for ventilation shall be chosen to facilitate heat dissipation, enhance its performance and reduce the energy consumption.

4.3 Leveling of the refrigerator



4.4 Left or right open door reversal(None)

| Door reversal(None) | |
|---------------------|------|
| | None |

4.5 Installation of handle

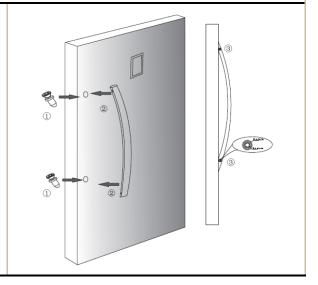
Installation of handle

Installation of handle

Installation of handle

- 1) Take two handle screws,install in the door hole,and screw the screw to low.
- 2) Alignment screw installation handle
- 3) Screw in the side hole of the revolving handle and fix the handle.

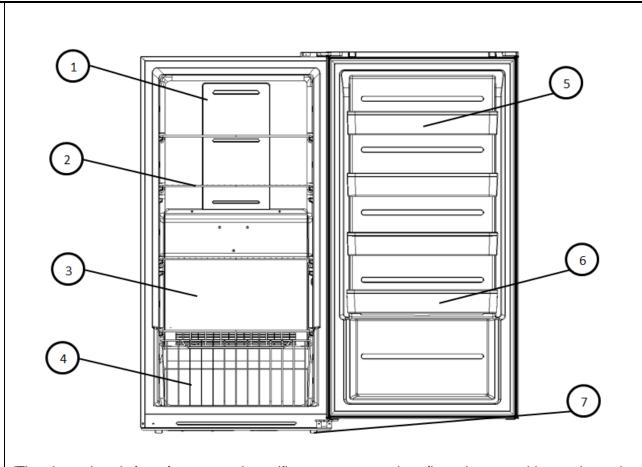
Note: The wrench is placed in the appendage bag.



4.6 Installation of door lock (None)

5. Product configuration and dimension

5.1 Main parts and their names

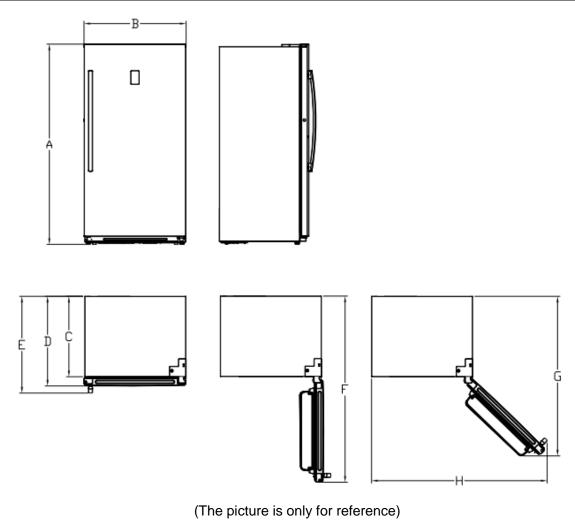


(The picture is only for reference, and specific appearance and configuration are subject to the real product)

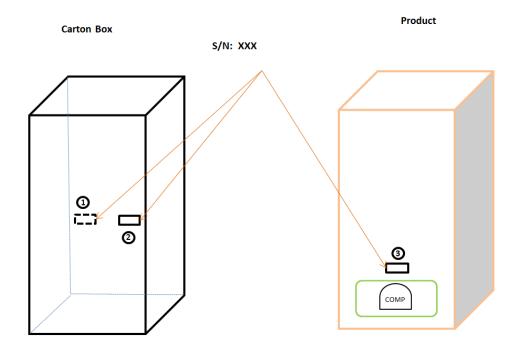
| Freezer chamber | Refrigerator chamber |
|--|----------------------|
| ① Air duct components in frezzer/refrigerating | |
| chamber | |
| ② Steel wire shelf of freezer/refrigerating | |
| ③ Air duct components in frezzer/refrigerating | |
| chamber | |
| Steel wire drawer | |
| ⑤ Big bottle frame in freezer/refrigerating | |
| chamber | |
| 6 Small bottle frame in freezer /refrigerating | |
| chamber | |
| ⑦ Regulating foot | |

5.2 External dimension

| Description | Code | HS-507FWEN Size (mm) | HS-625FWEN Size (mm) | HS-772FWEN Size (mm) |
|------------------------------|------|----------------------|----------------------|----------------------|
| Height to Top of Case | Α | 1570 | 1650 | 1950 |
| Width | В | 711 | 830 | 830 |
| Depth w/Cabinet | С | 680 | 660 | 660 |
| Depth w/Door | D | 750 | 735 | 735 |
| Depth w/Handle | Е | 800 | 794 | 794 |
| Depth (Door open 90 deg. w) | F | 1415 | 1528 | 1528 |
| Depth (Door open 135 deg. w) | G | 1242 | 1310 | 1310 |
| Width (Door open 135 deg. w) | Н | 1230 | 1442 | 1442 |



5.3 Location of S/N



Some

products also have S/N on the lower part of the right side of the Cabinet.

6. Product specification

6.1 Electrical parameters

| Applicable Models | HS-507FWEN | HS-625FWEN | HS-774FWEN |
|-----------------------------------|---|-------------------------------|-------------------------------|
| Product Name | UR-BD390WE-ST | UR-BD481WE-ST | UR-BD594WE-ST |
| Product Code | 22031010002261 | 22031010002242 | 22031010002241 |
| Item | Specification | | Specification |
| Refrigerant | R600a | R600a | R600a |
| Compressor | EZ75E1A | EZ75E1A | EZ90H1A |
| Starter(PTC) | 8EA14C3-02 | 8EA14C3-02 | 8EA14C3-02 |
| Overload protector(OLP) | 4TM302TFBYY | 4TM302TFBYY | 4TM319TFBYY |
| Integrate PTC+OLP | None | None | None |
| Variable frequency driver board | None | None | None |
| Capacitor | 8µF | 8µF | 12µF |
| Power filter | None | None | None |
| Winding resistance of | Rmc: 5.35±7%Ω | Rmc: $5.35\pm7\%\Omega$ | Rmc: 4.03±7%Ω |
| compressor wiring terminal | Rsc: $8.01\pm7\%\Omega$ | Rsc: $8.01\pm7\%\Omega$ | Rsc: $4.21\pm7\%\Omega$ |
| Compressor wiring terminal | Rms=Rmc+Rsc | Rms=Rmc+Rsc | Rms=Rmc+Rsc |
| Winding resistance picture | R/M S | R/M S | R/M S |
| The input power of compressor | 93.3W | 93.3W | 111.8W |
| Motor | | | - |
| Fan motor of the freezer chamber | DC12V/≤2.4W | DC12V/≤2.4W | DC12V/≤2.4W |
| Lights inside | side the refrigerator | | |
| Lights inside the freezer chamber | LED DC12V | LED DC12V | LED DC12V |
| Switch of the refrigerator door | ■Mechanical switch □Magnetism control switch | ■Mechanical switch □Magnetism | ■Mechanical switch □Magnetism |
| | | control switch | control switch |

6.2 Cooling temperature setting range

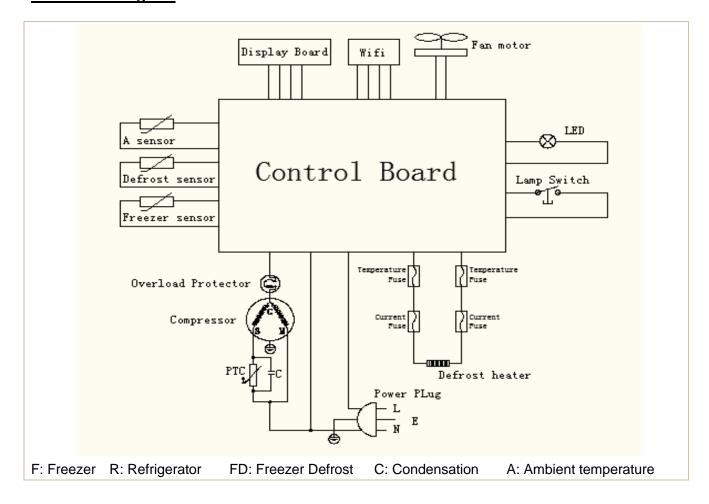
| Compartment | The highest (°C) | Lowest (°C) |
|---------------|------------------|-------------|
| Freezing | -14 | -26 |
| Refrigerating | / | / |

6.3 Defrosting parts

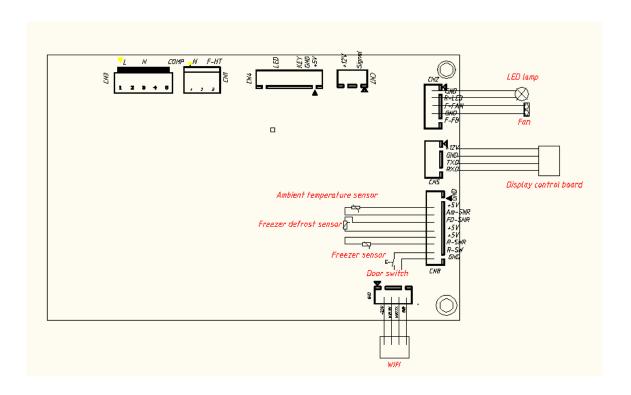
Electronic type

| Item | Specification |
|------------------------------------|---------------------|
| Defrosting sensor | / |
| Fuse | 77(0,-4) ℃ |
| Defrect bester in freezing shamber | BD390 115V 280 |
| Defrost heater in freezing chamber | BD481/594 115V 320W |

6.4 Circuit diagram

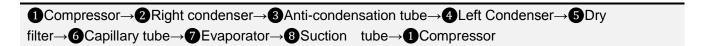


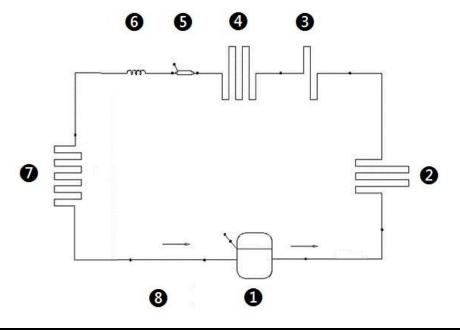
6.5Main control board structure diagram



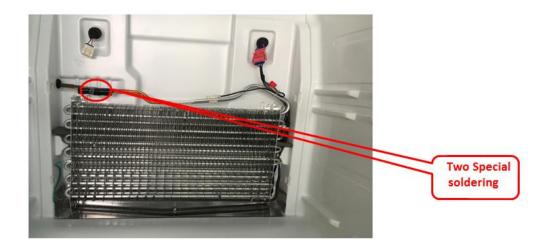
7. Refrigerating piping system and circulating route of cooling air

7.1 Refrigerating piping system

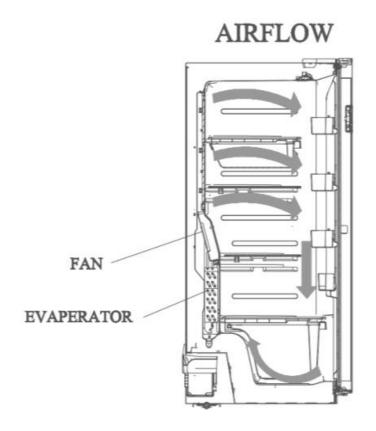




7.2 Special soldering position



7.3 Circulating route of cooling air



8. Dismantling of parts

8.1 Parts on the door

Door seal

Door seal is installed into door liner groove.



Door tray

While squeezing it inward, lift up the baffle and take it out from refrigerator liner.



8.2Parts inside the refrigerator

Shelves

1) Lift up the division plate with a proper force and pull it out towards yourself.



Freezer Drawer

1) Lift up the Steel wire with a proper force and pull it out towards yourself.



8.3 Light system

Light

Light of the freezer

Light of the freezer chamber is located upper chamber

- Insert a slit with a type screwdriver and dismantle the lampshade
- 2) Release the buckle, disconnect the terminal and dismantle the lamp board





Light switch

- 1) remove the screws on the hinges
- 2) Release the terminal, press the light switch elastic plastic block to remove the lamp switch



8.4Air duct components freezing chamber and fan motor

Air duct components in freezing chamber

All accessories in the freezing chamber should be dismantled before removing the air duct components.

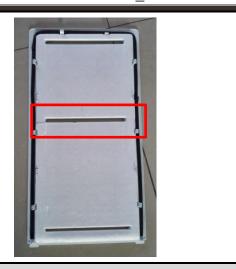
- Remove 2 screws on the cover plate of the freezing air duct using a cross screwdriver.
- hold the upper position of air duct cover, and pull it our slightly, it should be very careful for avoiding the wiring harness/connector be damaged if overexertPull out the connector terminal of the fan motor.
- 3) hold the upper cover from the bottom, pull out the upper cover
- 4) The upper cover red frame is easily damaged, do not force too hard when disassembling
- 5) ace the Air duct in reverse steps.











Fan motor of air duct

- 1) Press the buckle and uncover the back cover
- 2) Grab the lid and take it off the fridge
- 3) Remove the screw and remove the fan from the refrigerator







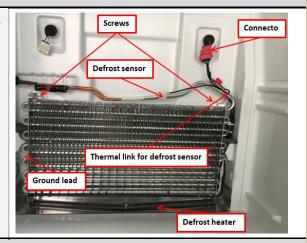
8.5Air duct components in refrigerating chamber and fan motor(None)

| Air duct components in freezing chamber | | |
|---|--|--|
| None | | |
| Fan motor of air duct | | |
| None | | |

8.6 Evaporator and Defrost system

Evaporator in freezing chamber

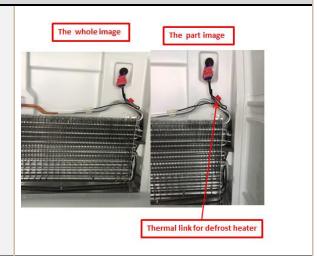
- 1) Remove the air duct components in freezer chamber.
- 2) Disconnect all connectors.
- 3) Remove the welding on inlet and outlet tubes.



Components on the evaporator

Defrosting fuse

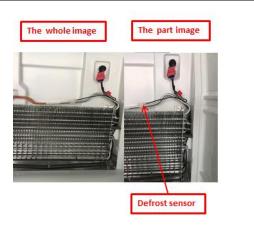
- 1) Disconnect the fuse connector.
- 2) Cut off the band which fixes the fuse.
- 3) Separate the fuse and the evaporator.
- *Don't break the welding of the evaporator in case that only the fuse needs to be replaced.



Defrost sensor

The defrost sensor is located on top of the evaporator pipe.

- 1) Disconnect the connector of defrost sensor
- 2) Cut off the band which fixes the sensor.
- 3) Separate the sensor and the evaporator.



Defrost heater

The defrost heater is located at bottom of the evaporator.

- 1) Disconnect the connector of defrost heater.
- 2) Cut off the band which fixes the defrost heater.
- 3) Take off the defrost heater from the evaporator.
- *Don't break the welding of the evaporator in case that only the defrost heater needs to be replaced.



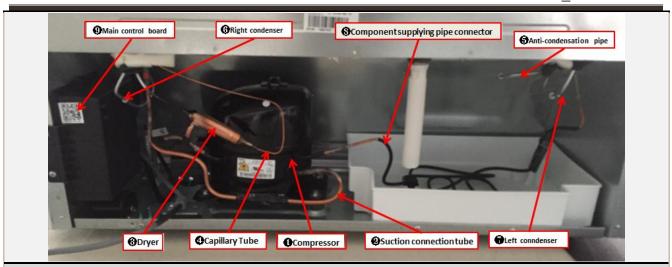
8.7 Compressor case

Rear cover and compressor case (None) Compressor and the cooling system pipe 1) Cut off the power, remove the goods in the refrigerator, with the tape to make the door fixed firmly and prevent the door dropping when the refrigerator dumping. 2) Slowly tilt the refrigerator forward, relying on the wall or Wall a solid enough object, leaving space to facilitate the operation. For safety, it should be carried by someone to prevent its falling. 3) Cut off the compressor pipeline.- 1 Cut off the process pipeline.-2 Cut off the low-pressure muffler.-3 Cut off the high-pressure exhaust pipe.

4-1) Remove the screws(for some models) -Two screws outside -One screw inside 4-2) Remove the metal clamp(for some models) -Disassembly the metal clamp that is fix the electric appliance shield 5) Remove the clipping strip Slowly pull it out 6) Remove the protective cover -Pry the protective cover slowly from the upper part, -Pull it out and remove it. 7) Remove the starter and protector Unplug the starter and protector (you can use a screwdriver to pry it slowly)

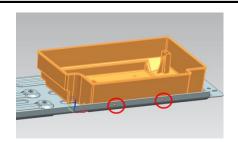
8) Loosen the screw of the compressor bottom plate, remove the floor together with the compressor from the box. 9) Use the wrench to remove the bolts by steps 4567, replace the compressor and reverse process can complete installation. 10) Use Pipe cutter cut off the condenser tube 8, then Shear off capillary 9 by the capillary tube scissors. 11) Replace the compressorand welding the compressor pipeline.- Welding the process pipeline.- Welding the low-pressure muffler.- 12 Welding the high-pressure exhaust pipe.

12) Replace the filter, Cu-Fe tubes welding (3) used Ag welding rod, Cu-Cu tubes welding used Cu welding rod. 13) Vacuum system, The degree of vacuum below 6Pa. 14) Perfusion refrigerant. 15) Use the vise grip pliers clamp the middle of the process pipe, then seal welding process tube 15 16. Back hanging wire tube condensor (None) Piping system in the compressor case 1.Compressor 5. Anti-condensation tube 2. Suction connection tube 6. Right condenser 3.Dryer 7. Left condenser 4.Capillary tube 8.Component supplying pipe connector 9.Main control board



Drain tray

1) Disengage the drain tray buckle out of the compressor bottom plate installation hole.



2) Replace the drain tray, the reverse process can complete installation.



8.8 Display control board

Display control board

- 1) Uncover the temperature control indication sticker on the cover plate of the air duct;
- 2) Gently pry out the PCB installation box with a straight screwdriver to get the master control board and installation box components;
- 3) Pry open the buckle of the PCB installation box with a straight screwdriver to see the PCB board;
- 4) Remove 2 screws using a cross screwdriver to remove the master control board;
- 5) Pull out the connector terminal and replace the master control board in reverse steps;
- *The temperature control indication sticker is likely to be damaged when replacing PCB, thus it is advised to



prepare one for standby before replacement:









8.9 Main control board

Main control board

- 1) Dismantling the main control panel mounting box screw
- 2) take off the cover of the main control board Dismantling the main plate screw



8.10Water dispenser (None)

| Water dispenser(None) | | | | | | |
|---|------|--|--|--|--|--|
| Disassembly and installation of water tank | None | | | | | |
| Disassembly and installation of water valve | None | | | | | |

8.11Ice maker (None)

| disassembly of ice maker | | | | | | |
|---|------|--|--|--|--|--|
| Disassembly and installation of ice maker | None | | | | | |
| Disassembly and installation of water system None | | | | | | |

8.12water filter component (None)

| Disassembly and installation of water filter component | | | | | |
|--|--|--|--|--|--|
| None | | | | | |

9. temperature sensing system

9.1Position of sensors

Have 3 sensors ① Sensor in freezing chamber ② Sensor in refrigerating chamber ③ Sensor in Variable temperature chamber ④ Ambient temperature or humidity sensor ⑤ Ice machine sensor ⑥ Defrost sensor in refrigerating chamber ⑦ Defrost sensor freezing chamber

9.3 Replacement of sensors

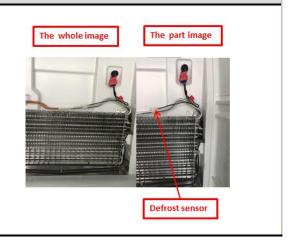
Sensor in refrigerating chamber The sensor is located at right of refrigerating chamber 1) Pull out the cover 2) Pull out the sensors Ambient temperature sensor

Ambient temperature sensor is located in upper hinge cover,



Defrost sensor in freezing chamber

- Before remove the sensor, the duct assembly should be removedRemove the air duct assembly.
- 2) Remove the sensor.



9.4 Sensor replacement

| Sensor replacement guidelines | | | | |
|-------------------------------------|-----------|--|--|--|
| Cut off the damaged head of sensor. | | | | |
| Strip off the sensor wiring. | N AWM ZAG | | | |

Take out a new sensor to cut the head of sensor. (Spare parts code: 11201007000795) Its technical specifications apply to all MIDEA refrigerators.



Strip off the head of the sensor and connect it.



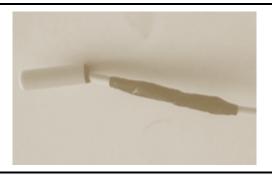


Wrap the two wires together with insulation tape.





Wrap the two wires together.



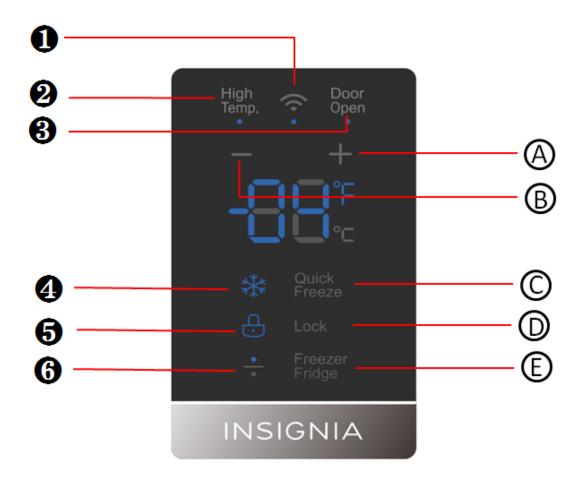
9.5 Sensor resistance(R/T)

| Tx(℃) | R (KΩ) |
|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
| -30 | 33.81 | -15 | 14.31 | 0 | 6.495 | 15 | 3.141 | 30 | 1.617 |
| -29 | 31.85 | -14 | 13.55 | 1 | 6.175 | 16 | 2.999 | 31 | 1.55 |
| -28 | 30.01 | -13 | 12.83 | 2 | 5.873 | 17 | 2.865 | 32 | 1.486 |
| -27 | 28.29 | -12 | 12.16 | 3 | 5.587 | 18 | 2.737 | 33 | 1.426 |
| -26 | 26.68 | -11 | 11.52 | 4 | 5.315 | 19 | 2.616 | 34 | 1.368 |
| -25 | 25.17 | -10 | 10.92 | 5 | 5.06 | 20 | 2.501 | 35 | 1.312 |
| -24 | 23.76 | -9 | 10.35 | 6 | 4.818 | 21 | 2.391 | 36 | 1.259 |
| -23 | 22.43 | -8 | 9.82 | 7 | 4.589 | 22 | 2.287 | 37 | 1.209 |
| -22 | 21.18 | -7 | 9.316 | 8 | 4.372 | 23 | 2.188 | 38 | 1.161 |
| -21 | 20.01 | -6 | 8.841 | 9 | 4.167 | 24 | 2.094 | 39 | 1.115 |
| -20 | 18.9 | -5 | 8.392 | 10 | 3.972 | 25 | 2.005 | 40 | 1.071 |
| -19 | 17.87 | -4 | 7.968 | 11 | 3.788 | 26 | 1.919 | 41 | 1.029 |
| -18 | 16.9 | -3 | 7.568 | 12 | 3.613 | 27 | 1.838 | 42 | 0.9885 |

| -17 | 15.98 | -2 | 7.19 | 13 | 3.447 | 28 | 1.761 | 43 | 0.9506 |
|-----|-------|----|-------|----|-------|----|-------|----|--------|
| -16 | 15.12 | -1 | 6.833 | 14 | 3.29 | 29 | 1.687 | 44 | 0.914 |

10. Function and operation

10.1 Operation panel



| Icons | Button |
|--|---|
| 1 WIFI access indicator | Temperature up key |
| 2 High temperature alarm | |
| 3 Door opening alarm | ©Quick freezing key®Key for locking and |
| 4 Quick freezing indicator | unlocking |
| 5 Locking | Refrigerating and freezing switching |
| 6 Refrigerating and freezing switching | |

10.2Display

- When the system is powered on: the LED module and 7 LED lights are all on for 3 seconds. Then
 enter the normal operation display
- Normal operation display: display the current set temperature
- In case of fault: display fault code

When the WIFI signal is normal, the WIFI indicator lights up; when the WIFI signal is disconnected, the WIFI indicator goes out.

10.3 Temperature setting

10.3.1 Temperature up key (A key)

Press the refrigerating/freezing temperature down key (B key) to set the temperature falling. Each time the key is pressed, the temperature falls by one degree. The temperature flashes when setting, and the setting state will be exited after 30 seconds of flashing.

10.3.2 Temperature down key (B key)

Press the refrigerating/freezing temperature up key (A key) to set the temperature rising. Each time the key is pressed, the temperature rises by one degree. The temperature flashes when setting, and the setting state will be exited after 30 seconds of flashing.

10.4 Fault alarm display and processing

10.4.1 Fault processing

Sensor fault of freezing chamber:

1. Ambient temperature < 20°C.

Press 30min to turn on, 80min to turn off.

2. 20° C < Ambient temperature < 35° C.

Press 40min to turn on, 40min to turn off.

3. 35° C < Ambient temperature.

Press 50min to turn on, 30min to turn off.

Defrosting sensor fault of freezing chamber: During the defrosting process, the defrosting heater exits the defrosting after 20 minutes of operation.

Ambient temperature sensor fault: the refrigerator operates at an ambient temperature of 25 °C When there is a fault display, the buzzer will alarm once every second until the fault is eliminated or the buzzer alarm is canceled manually; press any key to cancel the buzzer alarm!

10.4.2 Fault display and code

| Fault code | Fault content | Steps for maintenance methods | | |
|------------|---|--|--|--|
| | fault of ice maker | Step 1:Check whether the terminal of ice maker in main control board | | |
| E0 | | is well stuck, pull out the terminal and re-stick it in place | | |
| E0 | | Step 2: Check to see if there're foreign matters on the terminal | | |
| | | Step 3: Check whether the terminal of ice maker is well | | |
| | Temperature sensor fault in refrigerating chamber | Step 1: Check whether the terminal of temperature sensor in main | | |
| | | control board is welll stuck, pull out the terminal and re-stick it in place | | |
| E1 | | Step 2: Check to see if there're foreign matters on the terminal | | |
| | | Step 3: Inspect the refrigerating sensor whether contact is bad, and | | |
| | | resend contact the fast connector | | |
| | | Step 4: Replace main control board | | |
| | | Step 1: Check whether the terminal of temperature sensor in main | | |
| | | control board is welll stuck, pull out the terminal and re-stick it in place | | |
| | Temperature | Step 2: Check to see if there're foreign matters on the terminal. Pull out | | |
| E2 | sensor fault in | the defrost sensor in freezing chamber according to the method in | | |
| | freezing chamber | described in Article 9.2 and then inspect the sensor against the | | |
| | | resistance value table in 9.3. | | |
| | | Step 3: Replace main control board | | |

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| | | Step 4: Replace electrical wiring main harness |
|----|--|--|
| E3 | | Step 1: Check whether the terminal of temperature sensor in main |
| | | control board is welll stuck, pull out the terminal and re-stick it in place |
| | _ | Step 2: Check to see if there're foreign matters on the terminal. Pull out |
| | Temperature sensor fault in variable chamber | the defrost sensor in variable chamber according to the method in |
| | | described in Article 9.2 and then inspect the sensor against the |
| | | resistance value table in 9.3. |
| | | Step 3: Replace main control board |
| | | Step 4: Replace electrical wiring main harness |
| | | Step 1: Check whether the terminal of defrost sensor in main control |
| | | board is welll stuck, pull out the terminal and re-stick it in place |
| | Defrost sensor | Step 2: Check to see if there're foreign matters on the terminal. Pull out |
| E4 | fault in refrigerating chamber | the defrost sensor in refrigerating chamber according to the method in |
| L4 | | described in Article 8.6 and then inspect the sensor against the |
| | | resistance value table in 9.3 |
| | | Step 3: Replace main control board |
| | | Step 4: Replace electrical wiring main harness |
| | Defrost sensor fault in freezing chamber | Step 1: Check whether the terminal of defrost sensor in main control |
| | | board is welll stuck, pull out the terminal and re-stick it in place. |
| E5 | | Step 2: Check to see if there're foreign matters on the terminal. |
| LO | | Step 3: Inspect the defrost sensor whether contact is bad, and resend |
| | | contact the fast connector |
| | | Step 4: Replace main control board |
| | Communication failure | Step 1: Check whether the terminal CN9 is well stuck, pull out the |
| | | terminal and re-stick it in place |
| | | Step 2: Check to see if there're foreign matters on the terminal. |
| E6 | | Step 3: Inspect the display control board terminal whether contact is |
| | | bad, and resend contact the fast connector |
| | | Step 4: Replace main control board |
| | | Step 5: Replace display control boardStep 6: Replace main wire |
| | Ambient temperature sensor fault | Step 1: Check whether the terminal of temperature sensor in main |
| | | control board is welll stuck, pull out the terminal and re-stick it in place |
| E7 | | Step 2: Check whether the sensor wiring harness are connected. |
| E7 | | Step 3: Replace main control board. |
| | | Step 4: Remove the temperature sensor at the hinge, and replace the |
| | | temperature sensor. |
| | | |

| E8 | Defrost sensor fault in variable chamber | Step 1: Check whether the terminal of defrost sensor in main control board is well stuck, pull out the terminal and re-stick it in place Step 2: Check to see if there're foreign matters on the terminal. Pull out the defrost sensor in refrigerating chamber according to the method in described in Article 8.6 and then inspect the sensor against the resistance value table in 9.3 Step 3: Replace main control board Step 4: Replace electrical wiring main harness |
|----|--|---|
| E9 | High temperature alarm in freezing chamber | Step 1:Check whether the door is tight shut. Step 2: Check whether the power has been off for a long time. Step 3: Check whether the compressor is not refrigerated. Step 4: Same to E2 maintenance methods. |
| EE | Circuit fault of ice maker sensor | Step 1: Check whether the terminal ice maker sensor of main control board is well stuck, pull out the terminal and re-stick it in place and check if there is any foreign matter on the terminal Step 2: Check whether the terminal of ice maker is well |
| EH | Circuit fault of ambient humidity sensor | Step 1: Check whether the terminal ambient humidity sensor of main control board is well stuck, pull out the terminal and re-stick it in place and check if there is any foreign matter on the terminal Step 2: Check whether the sensor wiring harness are connected. Step 3: Replace main control board. Step 4: Remove the humidity sensor, and replace the sensor. |

10.4.3High temperature alarm

(1) In case of refrigerating function:

When Tf \geq 15 °C and duration \geq 36 hours. (< 15 °C and the duration is cleared) (It must be detected once that the temperature of frozen sensor is lower than 10 °C for judgement), then enter the over-temperature alarm, the high-temperature alarm indicator lights up; the buzzer sounds for 10 seconds at 1Hz frequency and then sounds for 10 seconds every 30 minutes.

The alarm is released when Tf < 12 °C. Operate any key to cancel the buzzer alarm.

(2) In case of freezing function:

When Tf \geq -8 °C and duration \geq 36 hours. (< -8 °C and the duration is cleared) (It must be detected once that the temperature of frozen sensor is lower than -15 °C for judgement), then enter the over-temperature alarm, the high-temperature alarm indicator lights up; the buzzer sounds for 10 seconds at 1Hz frequency and then sounds for 10 seconds every 30 minutes.

The alarm is released when Tf < -12 °C. Operate any key to cancel the buzzer alarm.

10.4.40pen the door to the alarm

When the door is opened, the door opening indicator light is on, and when the door is closed, the door opening indicator light goes out;

At any time, when the door opening time of the freezing chamber is more than 5 minutes, it will enter the door opening alarm, and the door opening alarm indicator light flashes according to 500ms opening and 500ms closing; The buzzer sounds with frequency of once per second or pressing any key can eliminate the buzzer alarm.

Note: The door opening alarm time can be set through the APP and then remembered to the main board after setting.

10.4.5Over limit alarmWhen the power is turned on, the time is started. If the sensor temperature exceeds the set temperature ± 7 °C after 40 hours, it will continue to judge that the temperature exceeds the limit for 2 continuous hours and the over limit alarm shall be pushed to the APP. If the temperature returns to ± 7 °C during 2 continuous hours, both 40 hours and 2 hours are cleared;

Note: Change the set temperature, change the refrigerating and freezing function, and open the door to clear 40 hours and continuous 2 hours

Quick freezing, 40 hours and 2 hours of continuous time are cleared in case of sensor fault, no over limit alarm is reported;

10.5 LED module control

Each time the power is turned on, the state setting or the display screen will light up when the door is opened, accompanied by a buzzer sound;

Under normal circumstances, when locked, the display screen will go out after 30 seconds of keyless operation;

Each time there is a key operation, the display screen will return to normal display;

When the "Fault code visible" type of fault occurs (when locked), the display screen lights up and goes out after 30 seconds.

When the door is opened, the display screen will always light up, and the display screen will go out after the door is closed for 30s (when locked);

In the unlocked state, after the key operation is completed and is locked for 30s, the display screen will go out.

Note: 1. When AP mode is set, the screen is locked for 10s and the main board resetting is locked for 3s. In AP mode, the display screen will go out if there is no operation for 2min after locking.

2. WIFI indicator light as well as refrigerating and frozen function LED lights are not affected by that the screen goes out.

10.6 Quick freezing mode

10.6.1Enter

Under freezing function, short press Quick Freeze to enter quick freezing mode and -24 °C / -11 °F is displayed.

10.6.2 Exit

- (1) In quick freezing mode, short press Quick Freeze to exit the quick freezing mode and return to display the original set temperature;
- (2) After the quick freezing time reaches the set time (24 hours), it will automatically exit and enter the normal mode operation;
- (3) Exit the quick freezing function when adjusting the temperature;
- (4) During the quick freezing process, when the sensor temperature is detected to be lower than -25 °C, the quick freezing function is exited 3 hours after the detection.

10.6.3Operate

(1) Compressor, the fan works continuously in synchronization without defrosting during this process.

- (2) The priority of quick-freezing mode is higher than that of normalizing frost: during the effective period of quick-freezing mode, the defrosting is not entered even if the normal defrosting condition is met; the defrosting entry condition is determined again when the quick-freezing mode is exited;
- (3) If the quick-freezing is set during the process of normal defrosting, then the quick freezing shall start timing when the defrosting is finished;

Note: The quick freezing time is included in the cumulative running time of the compressor.

10.7 Defrosting function

- **10.7.1Freeze defrosting control**The accumulative operation time of the compressor reaches 23h, and the refrigerator does not enter the defrost cycle. If the compressor reaches the shutdown condition, the refrigerator will stop and enter the defrost process. If the compressor has not reached the shutdown condition, the compressor will stop and enter the defrosting process for 24 hours.
- 5. After continuous 3h of compressor operation, it is forcibly stopped for 5min. When the ambient temperature is lower than or equal to 40 $^{\circ}$ C, defrosting shall be performed after two consecutive forcibly stopping. When the ambient temperature is higher than 40 $^{\circ}$ C, only two forcibly stopping shall be performed instead of defrosting after the two forcibly stopping.
- 6. When the ambient temperature < 15 °C, the cumulative running time of the compressor reaches 6 hours from the last defrosting to the next defrosting. The refrigerator does not enter the defrosting. If the compressor shutdown condition is met, the refrigerator stops to enter into the defrosting while if the shutdown condition is not met, the compressor shall enter into defrosting in an accumulation of 7 hours.
- 7. When the powered comprehensive works for an accumulation of 6 hours, the first defrosting shall be performed. If the shutdown condition has not been met, the compressor shall enter into defrosting in an accumulation of 7 hours and the defrosting exit temperature is 12 °C.

Note: If the defrosting sensor detects that the defrosting sensor temperature is lower than 8 °C when the freezing function is switched to the refrigerating function, it will force a freezing defrosting function, and the defrosting exit temperature is 8 °C;10.7.2 Refrigerating defrosting control

10.7.2.1 The defrost cycle shall be entered if one of the following conditions are met. The compressor runs for 6 hours (when the door opening times are more than 20 times and the defrost cycle is 24 hours).

System running time is 48 hours.

10.7.2.2The process of entering the defrost cycle:

The process of entering the defrost cycle:

The compressor stops and the fan continue to run and enter the defrosting process.

10.7.2.3The defrost cycle shall be exited if one of the following conditions are met

Trv \geq defrost exit temperature (ie: defrosting sensor temperature \geq 7 °C).

The defrosting process lasts for 5 hours. Note: the defrosting sensor in the refrigeration fails, and the defrosting process will automatically exit after 40 minutes.

10.8 Maintenance mode

10.8.1. Enter

Long press the lock/unlock button (D button) + temperature down button (A button) for 3 seconds to enter the maintenance mode. The display panel displays "0" for units' digit. Press the temperature up button once to display $AP \rightarrow 1 \rightarrow 2 \rightarrow 0 \rightarrow AP$. If the defrosting sensor fails during defrosting, the defrosting will exit for 20 minutes;

| Screen | 0 | AP | 1 | 2 |
|---------|---|----|---|---|
| display | | | | |

| Annotation: | Exit forced mode | Forced AP | Compressor forced | Forced |
|-------------|------------------|-----------|-------------------|------------|
| | selection | mode | continuous | defrosting |
| | | | operation mode | |
| | | | | |

10.8.2. Exit

Exit with one of the following conditions:

- (1) In the test mode, long press the lock/unlock button (D button) + temperature up button (A button) for 3 seconds to exit the test mode.
- (2) After entering the test mode, the forced function is not selected (i.e, 0 is displayed), and the test mode is exited after locking.
- (3) Power off

10.8.3 Control

- (1) Forced AP mode: Force the WiFi module to be in the hotspot mode. If the AP mode is locked, the AP mode is forcibly exited if the AP mode is not completed in 30S.
- (2) Forced start of the compressor: the compressor is forced to run for 36h and then exits the forced mode;
- (3) Forced defrosting: After the defrosting exits, the forced defrosting automatically exits

 Note: During forced defrost, defrost heater should be turned on for at least 3 minutes; in the forced mode, the main board can be operated according to the corresponding function after locking; in the non-mandatory mode, the function can be operated according to the corresponding function without locking the main board.

10.9 First power-on and memory function

The controller has a power-down memory function.

1. Memory content:

Refrigerating and freezing set temperature, refrigerating and freezing function selection, special mode, Celsius display state, door opening alarm time. The cumulative running time of the compressor (time accuracy: 0.5 hours)

- 2. The first power-on state: the freezing chamber set temperature is 0 °F;
- 3. If the temperature of the defrosting sensor is detected to be greater than 8 °C after power-on, the memory time of the compressor is cleared to 0;
- <u>10.10WIFI</u> function indicator The WiFi module sends a WiFi signal every 1 minute for normal command. If the WiFi signal is normal, the WiFi indicator lights up. If the WiFi signal is not normal, the WiFi indicator goes out; if the WiFi module cannot detect WiFi signal for 90 seconds, the WiFi indicator goes out.

11. Compressor and fan

11.1Compressor startup and shutdown control rules

11.1.1 Compressor startup and shutdown control

After power on, the compressor has 5min delay protection.

- **11.1.2** The compressor is stopped when one of the following conditions is met:
 - Tfa ≤ Tft or Tra ≤ Trt
 - After 3 hours of continuous operation and forced shutdown (except for quick freezing)
 - Defrosting state
 - 11.1.3The compressor is turned on when one of the following conditions is met:
- (After the compressor is controlled to stop, the downtime is ≥5min) AND ((Tfa ≥Tfk) or (Tra ≥Trk));
- After 3 hours of continuous operation and forced shutdown, the machine must be shut down for 5 minutes before starting up;
- Non-defrosting state;
 - ★ In the case that item 7.1.1 and item 7.1.2 are not met, the compressor remains in its original state.

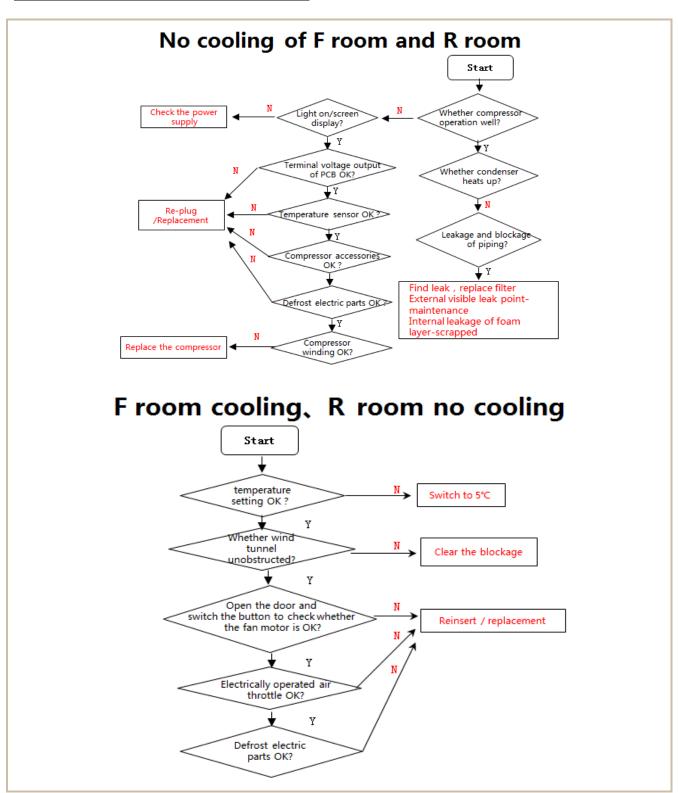
11.2Fan opening and closing control

11.2.1 Starting condition of freezer fan

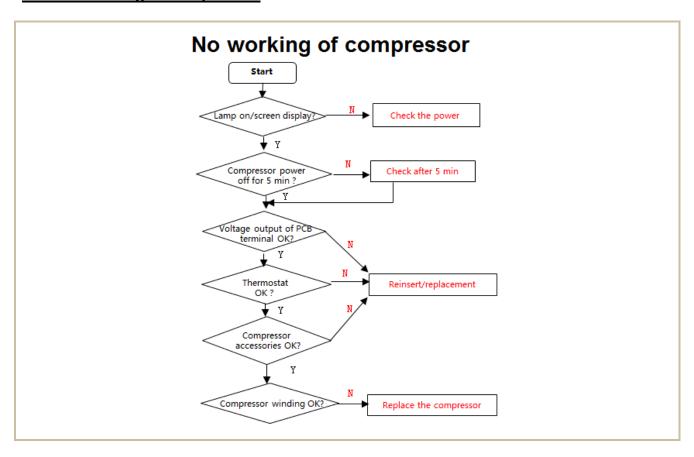
- 1. After the compressor is turned on for 1 minute, and the freezing chamber door is closed, the fan is turned on:
- 2. When the door is opened, the fan will stop working. After 15 minutes, the door has not been closed, and the fan works with the press.
- **11.2.2** When one of the following conditions is met, the fan in the freezer stops:
 - 1.1 minute after the compressor is stopped;
 - 2. In defrosting state of freezing chamber;
 - 3. Within 15 minutes that the door of freezing chamber is opened;
 - 4. The freezing fan cannot be started within 20s after the door is closed.

12. Troubleshooting Method

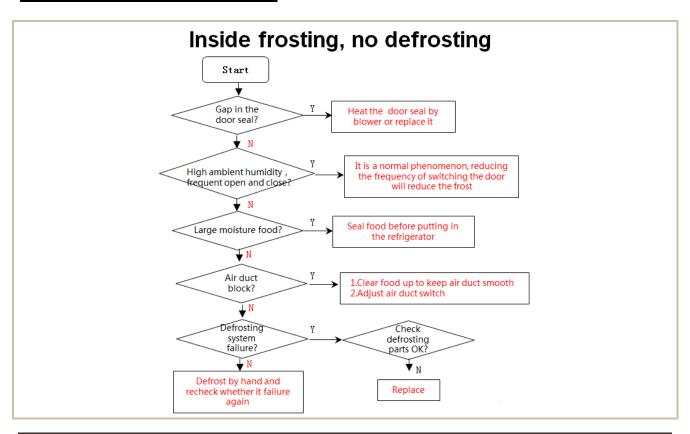
12.1No cooling (Air cooling-Electronic)



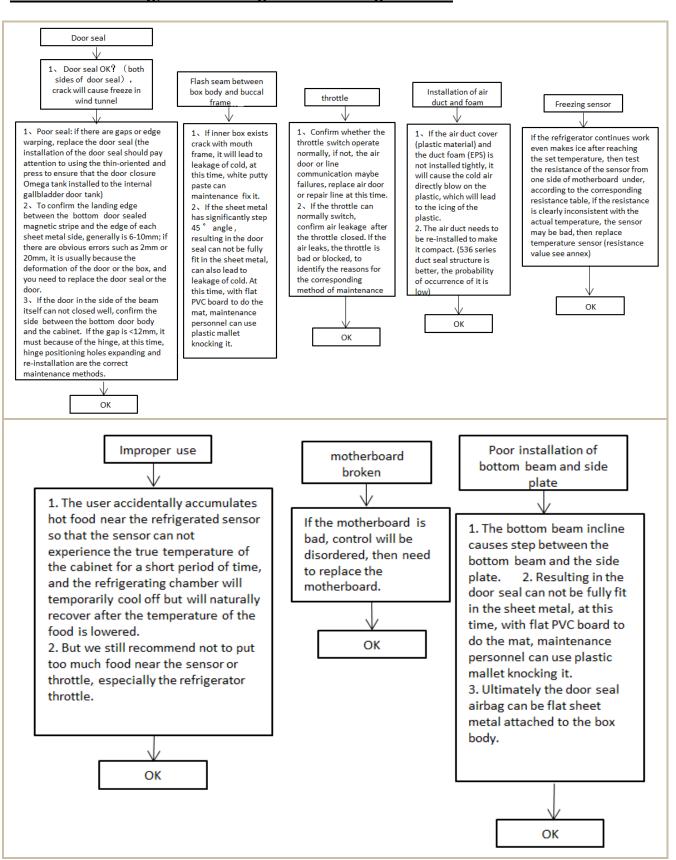
12.2 No working of compressor



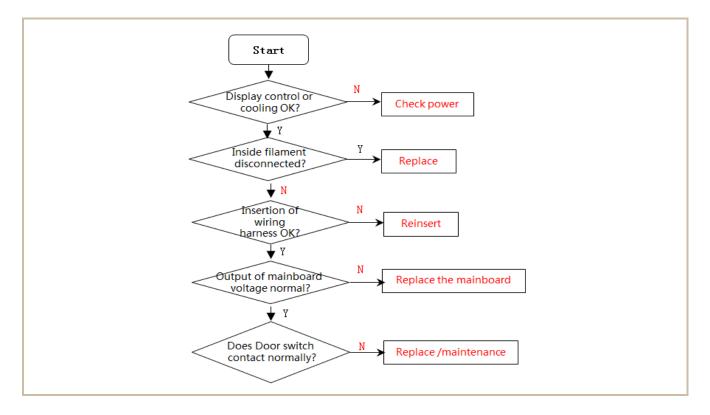
12.3 Inside frosting, no defrosting



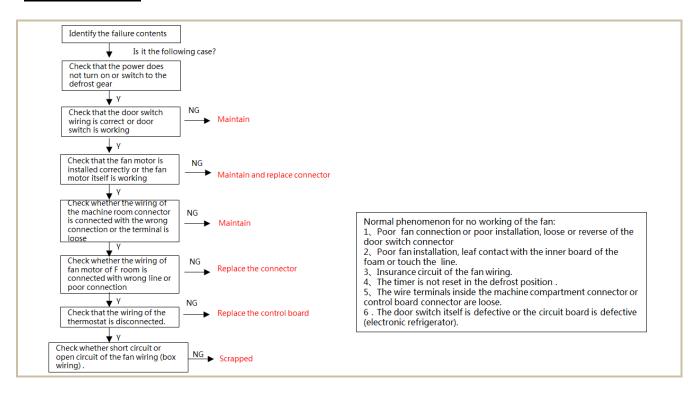
12.4 Inside frosting, no defrosting-Maintenance guidelines



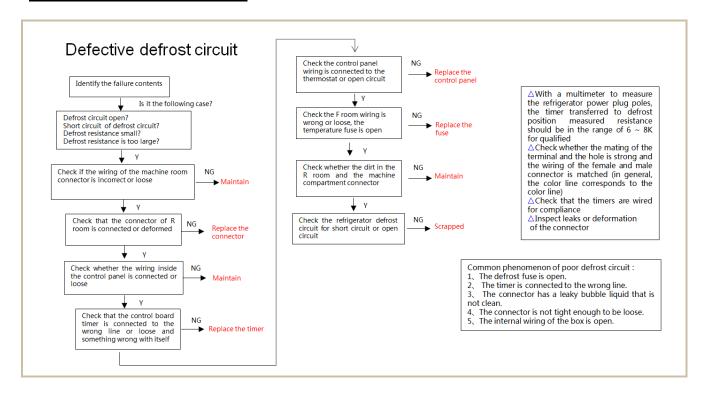
12.5 Light is not on



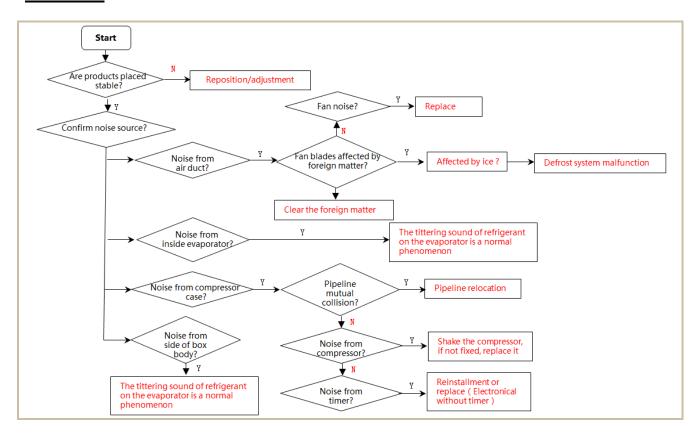
12.6 Fan failure



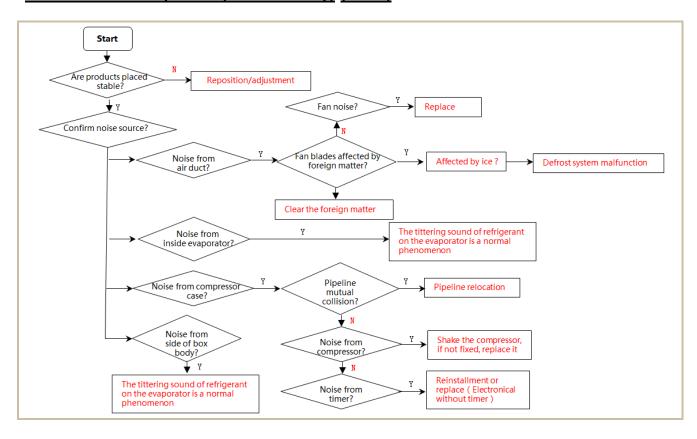
12.7 Defective defrost circuit



12.8 Noise



12.9 Air duct not operated(electronically) (None)



13. Figures and details of repair parts

See this section in the TSP.

Entry Guidelines (TSP System)



■ Where

Chrome





■ How

- Midea user: Same as your MIP account & password.
- Overseas customer:

Account: Generated by TSP (provided by administrator).

Each customer have a code in Midea Group, G/E + seven numbers.

If you buy different categories from Midea group, you can see all the product information by one account.

Password: abcd1234 (please revise after login in).

If the input error more than 5 times, account will be locked, need the administrator to unlock.

Admin team:



REF: Jamie Liu(liujc5@midea.com)

IT: Martin He(dingding.he@midea.com)



The symbol on the product or its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste for recycling, please contact your local authority, or where you purchased your product.



MIDEA appliances after sales website

For more information about Midea appliances after sales, please visit the <u>tsp.midea.com</u>
For more information about the service manual, please visit the <u>tsp.midea.com</u>
For more information about the EV and SBOM, please visit the <u>tsp.midea.com</u>



How to login TSP system

Use Google browser visit the https://tsp.midea.com/

Internal User:

Use MIP account and Password.

Customer:

Access: Generated by TSP (provided by administrator). Password: abcd1234 (please revise after login in).

Midea Refrigerators

If you need to get detailed technical information from the manufacturer, please contact:

xxx@midea.com

Refrigeration Division
Overseas Sales Company

Address: No. 176, Jinxiu Avenue, Economic-Technological Development Area, Hefei, Anhui, China